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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,145	06/16/2006	Toshihiro Hanada	1001560-000597	2583
21839	7590	02/24/2009	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				BASKIN, JEREMY S
ART UNIT		PAPER NUMBER		
3753				
		NOTIFICATION DATE		DELIVERY MODE
		02/24/2009		ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/583,145	HANADA, TOSHIHIRO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeremy S. Baskin	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 22 December 2008.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 16 June 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 06/16/2006.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_ .

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 8-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 22 December 2008.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In Claim 1, line 9, the limitation "the flow passage" lacks antecedent basis.

5. In Claim 4, line 2, the limitation "said piston" lacks antecedent basis.

6. In Claim 6, line 7, the limitation "the flow passage axis" lacks antecedent basis.

7. Claims 2-7 are rejected as being dependent upon at least one of the above claims.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Repplinger (US Pat. No. 4,403,764).

10. Regarding Claim 1, Repplinger teaches a valve (Figure 2) possessing a body (42) and an elastomeric tube (26) that passes through the inside length of the body. The valve works to close off the flow of fluid within the tube with the use of a squeezing means (36, 38) that is positioned on opposite sides of the tube (Figure 22). The squeezing means is brought together to collapse the tube and to cut off the flow of fluid within (Figure 22). The upper portion of the squeezing means (36) moves along the tube thereby moving a collapsed position along the tube while maintaining the flow passage in the closed state (col. 4, lines 34-52, Figure 23).

11. Regarding Claim 2, Repplinger teaches where the squeezing means (36, 38) comprises a movable roller (36) and a pressing surface (34) formed on the valve body (Figure 3). While the tube is partially arranged on the pressing surface (Figure 21), the roller moves from a position facing the pressing surface (Figure 21) to collapse the tube (Figure 22) to a position with the roller parallel to the pressing surface (col. 4, lines 34-36, Figure 23).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Repplinger in view of Mehus (US Pat. No. 4,372,345).

14. Regarding Claim 3, Repplinger fails to specifically teach where the roller is supported by a rotating member that rotates relative to the valve body and a corresponding arc-shaped pressing surface formed in the valve body.

15. Mehus discloses a fail safe roller tube valve. In Figure 3, Mehus teaches that it is known in the art to have a roller (72) supported by a stationary rotating member (54) and an arc-shaped pressing surface (20) extending about the axis (60) of the rotating member and formed within the housing body (18).

16. At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate a roller on a stationary rotating member with a corresponding arc-shaped pressing surface formed on the body of a roller tube valve, as taught by Mehus, so as to keep the elastomeric tube in place while achieving a desired level of resistance to cold flow deformation.

17. Regarding Claim 4, Repplinger teaches where a cylinder chamber (50) houses a piston (66) where the piston is actuated by a working fluid (col. 8, lines 29-35). Repplinger fails to teach where the rotating member rotates about an axis of rotation while being linked with the piston.

18. Mehus discloses a fail safe roller tube valve. Mehus teaches where the rotating member (54) rotates about an axis of rotation (60) while being linked (via 88) to a piston (74).

19. At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate a piston that is linked to a stationary rotating member within a roller tube valve, as taught by Mehus, so as to translate a sufficient squeezing force to a deformable tube by advantage of the torque produced by the radius of the stationary rotating member.

20. Regarding Claim 5, Repplinger teaches where a spring (68) is provided within the cylinder chamber (50) to force the piston to one end of the cylinder chamber (col. 5, lines 43-47, Figure 23).

21. Regarding Claim 6, Repplinger teaches where the piston (66) is positioned by the spring (68) at a neutral position (Figure 23) where the roller (36) is linked to the piston and collapses a portion of the tube (26) with the pressing surface (38). A working fluid is utilized to move the piston between closed and neutral positions (col. 8, lines 29-35). Repplinger fails to teach where the rotating member is linked with the piston.

22. Mehus discloses a fail safe roller tube valve. Mehus teaches where the rotating member (54) rotates about an axis of rotation (60) while being linked (via 88) to a piston (74).

23. At the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate a piston that is linked to a stationary rotating member within a roller tube valve, as taught by Mehus, so as to translate a sufficient squeezing force to a deformable tube by advantage of the torque produced by the radius of the stationary rotating member.

24. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Repplinger in view of Mehus as applied to Claim 6 above, and further in view of Jensen (US Pat. No. 6,536,739).

25. Mehus teaches the rotating member (54) with an engagement shaft (72 at 70) that is opposite the roller (71) across the axis of rotation (60) of the rotating member. The engagement shaft extends in a direction parallel to the axis of rotation of the rotating member (Figure 3). Repplinger in view of Mehus fail to teach a notch formed in the piston with the engagement shaft engaging with the notch so as to cause rotation of the rotation member with axial displacement of the piston.

26. Jensen discloses a flow control device. In Figure 2, Jensen teaches a piston (110) that is formed with a notch (110a) that extends in a direction vertical to the axial movement of the

piston. Engagement member (128) of the rotating member (106) engages with the notch of the piston so as to cause rotation of the rotating member with axial displacement of the piston.

27. At the time of the invention, it would have been obvious to one of ordinary skill in the art to create a male/female notch engagement portion between a rotational member with a roller and a piston, as taught by Jensen. The motivation to combine relies on the need to collapse a portion of an elastomeric tube while minimizing the number of components necessary to releasably connect the rotational member and piston together.

### *Conclusion*

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. **Henfrey (US Pat. No. 3,830,462)** teaches a valve with a hydrodynamic piston possessing a notch to receive a rotational member.
- b. **Teson (US Pat. No. 3,550,861)** teaches a valve with a piston possessing a notch to receive a rotational member.
- c. **Young (US Pat. No. 3,511,468)** teaches a flow control device with a roller attached to a rotor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy S. Baskin whose telephone number is (571)270-7421. The examiner can normally be reached on Monday through Friday, 7:30AM to 5:00PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. Hepperle/  
Primary Examiner, Art Unit 3753

/J. S. B./  
Examiner, Art Unit 3753